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**From:** Garvey, Mark [Garvey.Mark@epa.gov]  
**Sent:** 11/29/2017 10:12:39 PM  
**To:** Strynar, Mark [Strynar.Mark@epa.gov]; Libelo, Laurence [Libelo.Laurence@epa.gov]; Lindstrom, Andrew [Lindstrom.Andrew@epa.gov]  
**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

Oh, and for the record, I already thanked Laurence by phone earlier today.  
Just to cover myself – thanks to all of you.

Mark

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**Mark Garvey**

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202-564-4168  
garvey.mark@epa.gov

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attorney-work product, enforcement sensitive material or privileged information.

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**From:** Garvey, Mark  
**Sent:** Wednesday, November 29, 2017 5:10 PM  
**To:** Strynar, Mark <strynar.mark@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>  
**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

Thanks Mark S. This is very helpful.

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**From:** Strynar, Mark  
**Sent:** Wednesday, November 29, 2017 1:14 PM  
**To:** Garvey, Mark <Garvey.Mark@epa.gov>; Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>  
**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

Based on all of our work with NCDEQ we have measured several of PFECAs and PFESAs throughout the summer. They are chronicled in our 7 reports in the NC DEQ GenX Investigation webpage (sorry Laurence it is what they called it).

We have a fully validated method we have been using that should be published soon. However it is not a numbered EPA method.

The [REDACTED] HFPO. However in the last month there was [REDACTED]  
[REDACTED] HFPO as I recall.

Mark

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**From:** Garvey, Mark  
**Sent:** Wednesday, November 29, 2017 10:52 AM  
**To:** Libelo, Laurence <[Libelo.Laurence@epa.gov](mailto:Libelo.Laurence@epa.gov)>; Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>  
**Cc:** Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>  
**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

Thanks Laurence.

There's a lot of info there.

**Ex. 7(A)**

Mark

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**From:** Libelo, Laurence  
**Sent:** Wednesday, November 29, 2017 9:48 AM  
**To:** Lindstrom, Andrew <[Lindstrom.Andrew@epa.gov](mailto:Lindstrom.Andrew@epa.gov)>; Garvey, Mark <[Garvey.Mark@epa.gov](mailto:Garvey.Mark@epa.gov)>  
**Cc:** Strynar, Mark <[Strynar.Mark@epa.gov](mailto:Strynar.Mark@epa.gov)>  
**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

Hi Mark,

DON'T SAY GENx!!

"Genx is a technology....that includes a new surfactant, the HFPO dimer acid NH4 salt...."

Say "HFPO dimer acid and its NH4 salt" if you only want to talk about the P-09 chemicals. If you want [REDACTED]  
[REDACTED] In water the NH4 salt and other salts dissolved to form the HFPO acid ion or hexafluoropropanoate ion. This is what exists in water, not the acid or salt. This is also formed when HFPO acid fluoride, Ca salt, K salt or any other related ionic compound is put in water.

Andy, correct me if I am wrong but I think the anion is what is measured, not the protonated acid.

OK, Getting down off my soapbox – to answer your question -

As Andy says [REDACTED]  
[REDACTED]

I think the 537 [REDACTED]  
[REDACTED]

As Andy says there are commercially available analytical standards so the HPFO dimer acid analysis is being done by a lot of labs. The results are good even though there is not a "Standard EPA Method". The analysis is not that difficult really.

I am not sure what [REDACTED] statement. The method Andy and Mark are using is a valid EPA method. [REDACTED]  
[REDACTED]

A couple of other points – We know a lot more than we did in July.

The HFPO dimer acid precursors are clearly being discharged. ORD is finding some so they are coming out. I agree that [REDACTED]  
[REDACTED]

Other media have been analyzed and the HFPO dimer acid is present in them as well as water. It should be noted that soil, groundwater and air also have it.

The release to air should be included. 70,000 lbs to air is significant. It means that there is widespread contamination, not just the surface water discharges.

Chemours produces the HFPO dimer acid and NH4 salt and a number of other fluoroethers that can form the HFPO [REDACTED]  
[REDACTED]

It would be better to say [REDACTED]  
[REDACTED]

I also would very strongly suggest that the discussion include the other fluoroethers. Some of them are a lot worse than the HFPO dimer acid.

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**From:** Lindstrom, Andrew

**Sent:** Wednesday, November 29, 2017 8:48 AM

**To:** Garvey, Mark <[Garvey.Mark@epa.gov](mailto:Garvey.Mark@epa.gov)>; Libelo, Laurence <[Libelo.Laurence@epa.gov](mailto:Libelo.Laurence@epa.gov)>

**Cc:** Strynar, Mark <Strynar.Mark@epa.gov>

**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

Mark,

I don't think there is an official OW or OLEM method yet, but the approach outlined in the attached paper works well.

Most importantly, there is an analytical standard available (hfpoa document attached) so lots of commercial labs are doing it now.

Please let me know if you have other questions.

Thank you,

Andy

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**From:** Garvey, Mark

**Sent:** Wednesday, November 29, 2017 8:43 AM

**To:** Libelo, Laurence <Libelo.Laurence@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>

**Subject:** FW: Draft GenX Paper for OECA Briefing With [REDACTED]

Lawrence and Andrew,

In the email below, the water staff from Region 4 says the following -

“ [REDACTED] **Ex. 7(A)** [REDACTED] ”

I'm trying to figure this out. Can you help me?

Mark

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**Mark Garvey**

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**From:** Shell, Karrie-Jo

**Sent:** Wednesday, November 29, 2017 8:27 AM

**To:** Garvey, Mark <Garvey.Mark@epa.gov>; Speir, Jeffrey <speir.jeffrey@epa.gov>; Schwartz, Paul <Schwartz.Paul@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; [REDACTED]

[REDACTED] Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>;

Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan

<Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>

**Cc:** Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; [REDACTED]

**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

1. Minor edit: .

Ex. 5 Deliberative Process (DP)

## Ex. 5 Deliberative Process (DP)

2. The document states :”In June 2017, Chemours told North Carolina officials that it had stopped discharging GenX precursors into the Cape Fear River from the Fayetteville Works Facility.”

## Ex. 5 Deliberative Process (DP)

Karrie-Jo Robinson-Shell, P.E.  
Environmental Engineer  
US EPA Region 4  
Water Protection Division  
61 Forsyth Street  
Atlanta, GA 30303  
(404) 562-9308

**From:** Garvey, Mark

**Sent:** Tuesday, November 28, 2017 5:25 PM

**To:** [REDACTED] Schwartz, Paul <Schwartz.Paul@epa.gov>; Shell, Karrie-Jo <Shell.Karrie-Jo@epa.gov>; Fite, Mark <Fite.Mark@epa.gov>; Hall, Renea <Hall.Renea@epa.gov>; Jones, Aaryn <Jones.Aaryn@epa.gov>; George, Verne <George.Verne@epa.gov>; [REDACTED]  
[REDACTED] Duchovnay, Andrew <Duchovnay.Andrew@epa.gov>;  
Davis, Lauren O. <Davis.LaurenO@epa.gov>; Bean, Mark <Bean.Mark@epa.gov>; Schulz, Susan <Schulz.Susan@epa.gov>; Toney, Anthony <Toney.Anthony@epa.gov>; Bookman, Robert <Bookman.Robert@epa.gov>  
**Cc:** Davis, Molly <Davis.Molly@epa.gov>; Allenbach, Becky <Allenbach.Becky@epa.gov>; Oif, Leslie <Oif.Leslie@epa.gov>  
**Subject:** RE: Draft GenX Paper for OECA Briefing With [REDACTED]

To Region 4 TSCA & Water teams,

## Ex. 7(A)

Please note that this is not a meeting requesting senior management direction, but rather an informational briefing for Susan Bodine.

Thanks,  
Mark

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**Mark Garvey**

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**From:** [REDACTED]  
**Sent:** Tuesday, November 28, 2017 12:08 PM  
**To:** Schwartz, Paul <[Schwartz.Paul@epa.gov](mailto:Schwartz.Paul@epa.gov)>; Shell, Karrie-Jo <[Shell.Karrie-Jo@epa.gov](mailto:Shell.Karrie-Jo@epa.gov)>; Fite, Mark <[Fite.Mark@epa.gov](mailto:Fite.Mark@epa.gov)>; Hall, Renea <[Hall.Renea@epa.gov](mailto:Hall.Renea@epa.gov)>; Jones, Aaryn <[Jones.Aaryn@epa.gov](mailto:Jones.Aaryn@epa.gov)>  
**Cc:** Davis, Molly <[Davis.Molly@epa.gov](mailto:Davis.Molly@epa.gov)>; Allenbach, Becky <[Allenbach.Becky@epa.gov](mailto:Allenbach.Becky@epa.gov)>; Garvey, Mark <[Garvey.Mark@epa.gov](mailto:Garvey.Mark@epa.gov)>  
**Subject:** Draft GenX Paper for OECA Briefing

Hello, Region 4 Water Team:

The Director of the Office of Civil Enforcement at Headquarters has requested that we brief OECA leadership on GenX. The briefing will be for [REDACTED] who has expressed interest in this matter. The briefing is scheduled for Monday, December 4 at 2:00 pm. Note: This briefing is not a request for an OECA decision; rather, it is a presentation of the issues and our federal authorities.

We have prepared the attached draft briefing paper. It somewhat resembles a briefing paper you likely saw in August, with more emphasis on background facts and the State's actions, and less emphasis on enforcement "options." My counterpart in our TSCA/RCRA division will send his updates to the relevant Region 4 TSCA/RCRA folks.

Unfortunately, the deadline to send up the briefing paper is tight. Please provide any feedback you may have to me and Mark Garvey (cc'd) by Thursday, November 30 at noon. I apologize about the timing.

Please let me know if you have any questions or if you would like to discuss this further.

[REDACTED]  
Attorney-Adviser  
U.S. Environmental Protection Agency  
OECA – OCE – Water Enforcement Division  
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Washington, DC 20460  
(202) 564-[REDACTED]